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*Soviet Interests
in Antarctic Mineral Resources*

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Central Intelligence Agency
Directorate of Intelligence
October 1973

SOVIET INTERESTS IN ANTARCTIC MINERAL RESOURCES

Summary and Conclusions

Despite the relatively large scale scientific and commercial operations it has undertaken in the Antarctic and surrounding waters, the USSR has made no attempt to exploit that continent's mineral resources. The USSR has, in fact, proposed that all "Antarctic countries" confine themselves for the coming decade to basic geological research. They have called for a moratorium on the issuance of commercial prospecting licenses throughout the continent and seem particularly eager to prevent or delay oil and gas exploration on the continental shelf. Their longer-range intent is indicated, however, by the magnitude of their exploration program, the largest and most explicitly resource-oriented in Antarctica.

Soviet officials have been generally cooperative in Antarctic Treaty negotiations and have conformed in the main to the Treaty's provisions. It is clear, however, that their Antarctic interests are not exclusively scientific and that they are not unaware of South Polar economic considerations. The Soviet whaling and fishing fleet in Antarctic waters, for instance, is an established commercial venture with a catch valued in the tens of millions of dollars. Krill and seal exploitation may also be entering a commercial stage.

The issue of mineral exploitation will be coming up at the next Treaty consultative meeting in late 1974 or early 1975.

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Background

1. The Antarctic Treaty, ratified in 1961 and elaborated at seven subsequent consultative meetings, has provided the basis for peaceful resolution of a variety of contentious issues.* However, Treaty negotiators deliberately avoided the sticky issue of exploitation of mineral resources in order not to offend the sensitivities of certain countries with territorial claims, particularly Argentina and Chile. In 1970 for the first time the subject of mineral exploitation was raised unofficially at a Treaty consultative meeting because of concern over expressions of interest in the Antarctic by commercial firms. More recently, at the 1972 consultative meeting in New Zealand, formal discussions were begun on this issue. A widely supported proposal to place a moratorium on mineral exploitation failed, with the result that members could agree only to study the problem and discuss it again at the next meeting in late 1974 or early 1975.

2. Soviet policy before the 1959 Antarctic Treaty Conference, like that of the United States, was one of nonrecognition of territorial claims and reservation of rights to freedom of research anywhere in Antarctica. During the Treaty negotiations the USSR took a generally constructive attitude, although they tried -- unsuccessfully -- to broaden the Treaty by extending its applicability to a larger part of the southern ocean and by expanding negotiations to include all interested countries.

3. Since the signing of the Antarctic Treaty, Soviet commentaries have expressed great satisfaction with it, particularly with the provisions for scientific cooperation and use of Antarctica for peaceful purposes only. At subsequent consultative meetings they have been most interested in pragmatic issues such as improving communication for weather reporting, and have advocated strict adherence to Treaty language in negotiating and drafting recommendations.

* *Original parties: Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, USSR, United Kingdom, United States; acceding parties: Czechoslovakia, Denmark, Netherlands, Poland, Romania.*

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4. Soviet Antarctic operations are on a larger scale than those of any country other than the United States. The Soviet effort exceeds even that of the United States in certain respects, especially in the amount of marine research, the number of year-round stations, and the number of wintering scientists and technicians. Overall, the Soviet program is characterized by the high ratio of research to support personnel, an emphasis on practical application of all research, and the achievement of substantial results at a relatively low cost.

5. The 1971-75 Soviet plan for Antarctic research notes that the work of the first 15 years concentrated on the general nature of Antarctica, and that future work will focus on specific problems and on the practical uses of the area. Emphasis will be on geological and geophysical surveys and mapping; on oceanic, atmospheric, and solar-terrestrial processes; and on marine biological resources, animal life, and human acclimatization. Basic data collection for environmental forecasting will also be continued.

6. To implement this expanded program the USSR in 1971 added a new year-round station, Leningradskaya, and began construction of a second, Russkaya, in the 1972-73 austral summer. Their seven stations will completely ring the continent (see map, following text). They have also initiated a "geophysical polygon" project, which will ultimately include 34 automatic geomagnetic stations, and have significantly increased shipboard and field programs. The planned addition of heavy aircraft to improve intercontinental logistics has not yet occurred, although the number of light aircraft and helicopters for intracontinental support has grown from 5 to 10 since 1970.

Economic Interests

7. Present Soviet commercial activities are limited to exploiting the biological resources of Antarctic waters. Whaling operations, begun by the USSR in 1946, are estimated to have a gross value of 30 to 40 million dollars. As whaling has declined, the USSR has undertaken large experimental programs for catching fish, krill, and seals.

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The Appendix describes these programs in greater detail since they provide insights into Soviet interpretation of treaty responsibilities in relation to economic activities.

Mineral Resources: Exploration Activities and Development Plans

8. Geological research, including as an explicit goal the discovery of mineral resources, has been an important component of each Soviet Antarctic Expedition. The 5-year plan, 1971-75, states that the present geological task is to map the continent on the basis of geological, gravimetric, and magnetic surveys in order to determine its mineral-resource potential.

9. Commentaries by leading Soviet geologists invariably contain references to Antarctica's rich mineral resources and to the inevitability of eventual exploitation. At the conclusion of the most recent expedition in May 1973 the leading Soviet Antarctic geologist announced the discovery of a very large and high quality iron ore deposit which he claimed "confirms forecasts about the potential mineral wealth of the continent." He stated also that the 30-meter-thick ice overburden "is no obstacle to modern mining technology." Frequently remarks such as these are tempered by an estimate that commercial exploitation will not begin for another 10 or 20 years. One Soviet writer makes the claim that the Soviet system of planning, transportation, and mobilizing labor and capital would give the USSR a decisive advantage over Western nations in future Antarctic mineral exploitation.

10. Intentions and capabilities are revealed also by examination of Soviet geological activities. During their 18 annual expeditions the Soviets have carried out geological and geophysical surveys over most of the major exposed rock areas of East Antarctica. Most of this work has taken place in the mountains of Queen Maud Land and Enderby Land and around the Amery Ice Shelf (see map, following text). In addition, the assignment of exchange scientists to the programs of other nations and the recent construction of new stations has given the Soviets the opportunity to conduct geological work in nearly all areas of Antarctica.

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11. The Soviet explorations in East Antarctica have resulted in discovery of a number of mineral occurrences. No deposits have been found of quantity or quality high enough to overcome the present costs of extraction imposed by the Antarctic's unique environment. The attached map locates the most significant of these occurrences, which range from minute concentrations of molybdenum to large deposits of coal and iron. The most noteworthy may be an iron ore deposit to the south of the Amery Ice Shelf which reportedly extends for 120 kilometers, measures over 1,000 meters in thickness, and contains up to 42 percent iron.

12. Geological research at sea has also been carried out during nearly every expedition, integrated with other scientific programs during cruises of the expedition's research vessels. The cumulative result has been the acquisition of perhaps as many as 1,000 bottom samples and cores and some tens of thousands of kilometers of magnetic, gravity, and seismic profiles along ship tracks to the continent and along its coasts. The Soviets have also agreed to provide funding to enable them to participate in deep drilling aboard the U.S. ship *Glomar Challenger*.

13. In most years before 1971 the Soviet geological program on land was carried out by a detachment of 4 to 10 geologists and geographers supported by a flight crew with 2 or 3 small aircraft. Soviet summary reports at the end of each field season typically recorded completion of geological surveys over an area of 50,000 to 100,000 square kilometers, with detailed inspection of several hundred rock outcrops and collection of as many as 4,000 rock samples. The geological work was closely integrated with seismographic, gravimetric, aerial photographic, geodetic, and aerial magnetic and mapping surveys.

14. This level of effort has been considerably expanded under the new 5-year plan. Each of the last two expeditions, which operated during the summer season in the Amery Ice Shelf area, has included a large field party of aviators, geologists, geophysicists, and aerial photographers, totaling over 100 persons (see Figures 1 and 2). This extensive field program is scheduled to continue during the 1973-74 season.

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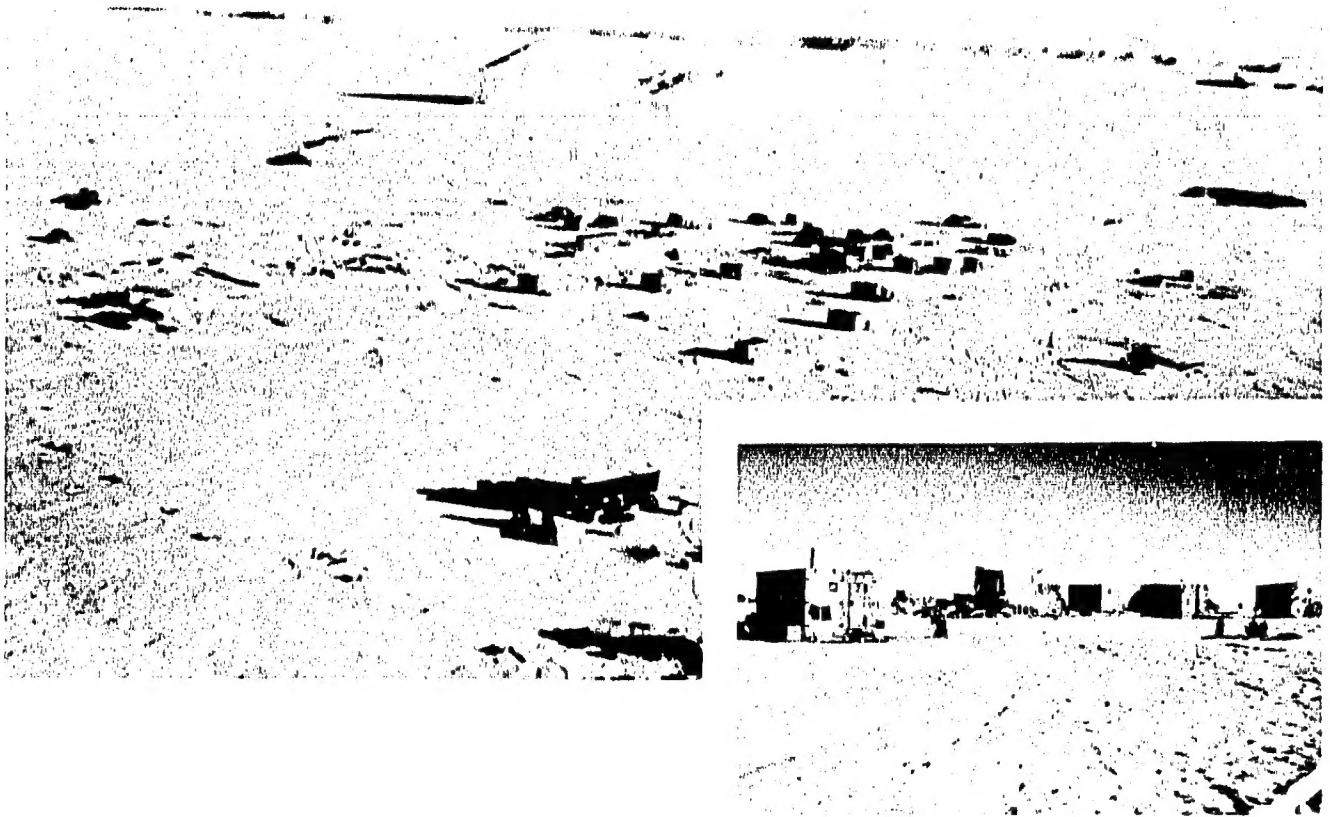


Figure 1. Amery Ice Shelf Field Camp (1973). Temporary support base for geological-geophysical activities during summers of 1971-72, 1972-73, and 1973-74.

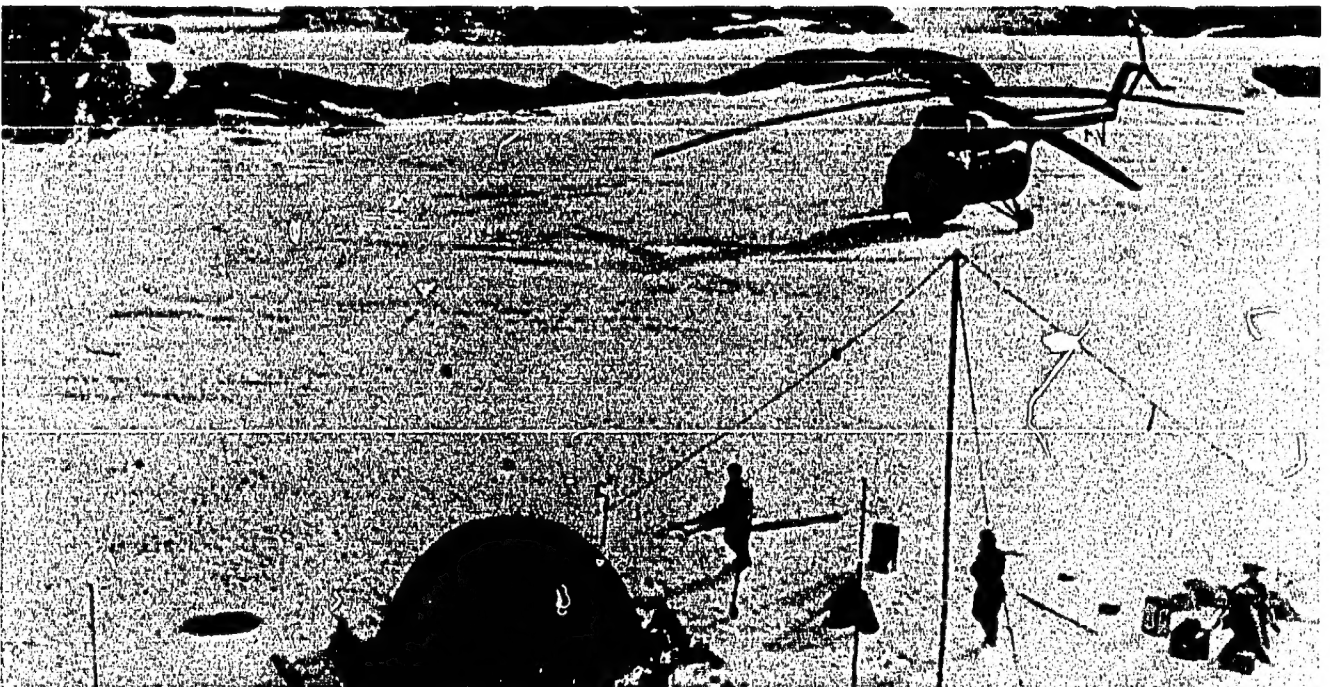


Figure 2. Temporary geological field camp. MI-4 helicopter provides mobility in the field.

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15. The amount of aircraft support allocated to Soviet geologists probably exceeds that provided to geologists by any other country, including the United States. During the 1969-70 season, with three aircraft in the Antarctic, the Soviets managed to allocate 400 flight hours in support of geological/geophysical field parties. Air support to the most recent expedition, primarily for support to field parties, was augmented by the addition of four helicopters and three twin prop IL-14 aircraft.

16. This high-quality field program is further enhanced by a strong research staff in the USSR. The leaders and often all geologists on field expeditions are members of the Scientific Research Institute of Geology of the Arctic (NIIGA) in Leningrad. NIIGA employs about 400 scientists and technicians and is the world's largest organization specializing in polar geological research. Approximately 20 NIIGA geologists are believed to work full time on the Antarctic area.

Mineral Resources: Evolving Legal and Regulatory Policy

17. The general outline of Soviet policy on a future legal regime for Antarctic mineral exploitation can be gleaned from various pronouncements on the Antarctic Treaty and from journal articles about the resource problem. Until very recently the most detailed public statement on the subject was made in a 1971 article entitled "Theoretical Problems of Conservation of Antarctic Resources Under International Law" by V.A. Chichvarin, who apparently works in the Treaty Division of the Ministry of Foreign Affairs. He stated that national territorial claims have no validity in relation to Antarctic resources, nor can exploitation be justified on the basis of "finders keepers." He observed that legal specialists of the socialist countries view the Antarctic as an international zone with "... unimpeded access to the Treaty region, including utilization of its natural resources, for all nations (and not only Treaty members) on the basis of international cooperation ... " Conversely, he states that no government, on the pretext of

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conserving any of these resources, has the right to undertake unilateral or collective actions aimed at preventing another country from using them. He further suggests that the legal status of Antarctic resources should be entrusted to all countries of the world, and alludes to a possible role for the UN.

18. This Soviet writer, as well as others, claims that conservation considerations will have an important bearing on future exploitation of minerals. He goes so far as to suggest that a future consultative meeting of the Treaty may need to consider worldwide regulations of pollution sources that affect the Antarctic. This public emphasis stands in some contrast with Soviet practice, which thus far has evidenced little noticeable concern for conservation measures in the Antarctic. The public stance may thus be simply a propaganda exercise but it could also be an attempt to lay the groundwork for future objections to any resource exploitation by other countries.

19. Solomon Slevich, a prominent Soviet Antarctic publicist, in a 1968 article on inspection and control in the Antarctic, commented on the subject of possible sanctions to be applied against an offending nation in the event of disagreement over future mining operations. He ridicules compulsion as being contrary to the spirit of cooperation fostered by the Treaty. Rather, he claims that the Treaty principle of unanimity allows only negotiation and conciliation for settlement of disputes.

20. The USSR did not contribute substantially to discussions of the mineral resource problem at the sixth and seventh consultative meetings of the Treaty. At the sixth meeting, in 1970, the Soviet representatives said they had no instructions but that in any case the USSR had no problem in this area because its mining enterprises were state-owned and thus would not be in a position to take troublesome initiatives. Essentially the same position was taken in 1972, with the added element that the USSR was willing to accept a moratorium on exploitation at least until the next consultative meeting in 1974 or 1975.

21. The most recent and probably the most authoritative information on Soviet mineral resource policies was revealed during a June 1973 conference of Treaty members in Norway,

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held to allow interested countries to exchange unofficial views and develop information on this topic in advance of the upcoming eighth consultative meeting. A Soviet paper stated that prospecting and exploitation of useful minerals would clearly not be profitable in the next two or three decades and that consequently there is no urgency for discussion of specific regulations on an exploitation regime. The Soviet author proposed instead that for the next decade or so the Treaty nations should continue a general program of scientific geological exploration on which to base future decisions. He claimed that mineral exploitation or even commercial exploration at this time would violate the spirit of the Treaty. The issuance of prospecting licenses to individual firms and citizens would in fact "torpedo" the Treaty by:

- a. aggravating territorial claims problems;
- b. hampering scientific investigation, because private firms do not publish data for competitive reasons;
- c. polluting the environment and violating the ecological balance of the continent regardless of regulations imposed;
- d. transforming the Antarctic from a continent of science into an arena of business.

22. The Soviet desire for a moratorium on exploitation is generally shared by the other Treaty countries. Their desire to extend the proposed moratorium to commercial exploration as well is firmly shared by only Chile and Argentina, both countries with meager exploration capabilities. The Soviet concern appears to be related mainly to potential exploration by Western firms for oil and gas on the continental shelf. They may thus be attempting to gain time to develop their own capabilities in this area.

23. Although they do not wish to negotiate specific regulations covering mineral exploitation at the present time, Soviet statements indicate that their position on this subject is consistent with that taken on previous occasions. That is, any licensing function should be delegated neither to the national governments of exploiting firms nor to governments claiming Antarctic territory. Rather, any licensing system should be purely international, residing in a multilateral organization that might be associated with consultative meetings of Treaty nations.

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APPENDIX

Biological Resources

1. Soviet economic interest in Antarctica began with whaling in 1946, nearly a decade before the USSR joined the pre-IGY research program. In spite of their relatively late entry into the whaling industry, they have increased their share of the internationally agreed quota until the USSR now accounts for about half the total Antarctic catch. At present they operate 3 factory ships and about 35 catcher vessels. The gross value of the catch from this operation is estimated to be on the order of 30 to 40 million dollars.

2. As the whale population has declined from overexploitation, the Soviets have initiated a large experimental program for catching fish, krill, and seals. The latest 5-year plan for the Antarctic, in accordance with its emphasis on practical benefits, includes a Soviet "Interdepartmental Expedition in the Southern Ocean," which will operate through 1975. The purpose was announced to be the locating of fishing areas and improvement of fishing techniques.

3. The success of this fisheries research program was indicated by a Soviet decision in 1967 to begin regular commercial operations. Fishing fleets, each consisting of as many as 10 large stern trawlers, now routinely operate in the Scotia Sea northeast of the tip of the Antarctic Peninsula, and south of New Zealand. In 1968 and 1970 the USSR unsuccessfully attempted to buy or lease the abandoned British whaling station on South Georgia Island as a base for part of these operations. The institutionalization of these operations was formalized in 1972 by establishment of the Antarctica Fishing Association within one of the four Soviet Fishing Directorates.

4. Commentary in Soviet journals makes clear that the Antarctic Treaty, because it fosters cooperative scientific activities, is considered an aid rather than a hindrance to commercial exploitation of biological resources in Antarctic waters. The Treaty provision for exchange of information, which might be considered a disadvantage in competitive

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fishing activities, has posed no problem for the USSR since proprietary information on size and type of catches in the Antarctic is withheld in the same manner as it is in other fishing regions of the world. Although research publications and news reports contain some information on marine activities, USSR information reports exchanged under the Treaty do not include data on fishery research ships and trawlers or on other research vessels that are not part of their regular Antarctic expedition.

5. An attempt by several countries during the sixth consultative meeting in 1970 to improve the exchange of information about research vessels was strongly resisted by the USSR on the incorrect grounds that the information was already being provided. A recommendation on exchange of information on oceanic research was subsequently adopted, but has resulted in no improvement in Soviet reporting practices. In a similar vein, the USSR has failed thus far to report its seal catches as required by the agreed measures on flora and fauna.

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Soviet Stations and Exploration in Antarctica

- Soviet station
 - US station
 - Other stations
 - ▢ Major area of Soviet exploration
- ### Soviet Mineral Discoveries

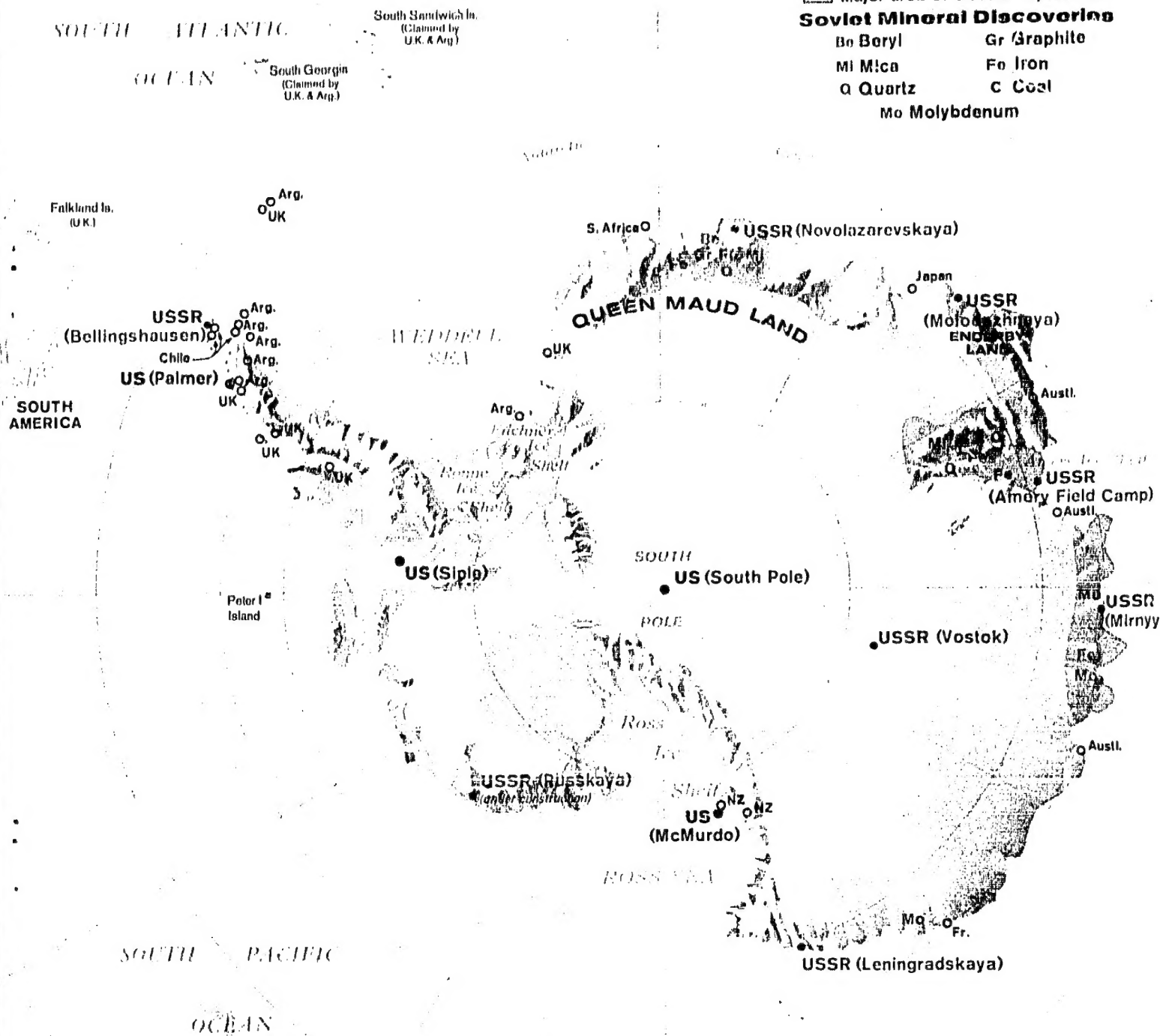
Soviet Mineral Discoveries

Gr Graphite

Fe Iron

C Coal

Mo Molybdenum



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Kilometers

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